What Is Claimed Is:

1. A rotor in a rotating electrical machine comprising; permanent magnets embedded in the rotor core, and

magnetic flux short circuit preventive holes extending from the circumferential ends of said permanent magnets constituting magnetic poles to the vicinity of outer periphery of said rotor core;

said rotor being a rotor with embedded permanent magnets further characterized in that,

when the axis extending in the center direction of the magnetic pole of said rotor is assumed as d-axis, and the axis extending in the interpolar direction 90 degrees deviated from the center direction of said magnetic pole in terms of electric angle is assumed as q-axis,

the radial distance between the outer periphery of said magnetic flux short circuit preventive hole and that of said rotor core is increased gradually in conformity to the approach to d-axis side from q-axis.

2. A rotor in a rotating electrical machine comprising; permanent magnets embedded in the rotor core, and

magnetic flux short circuit preventive holes extending from the circumferential ends of said permanent magnets constituting magnetic poles to the vicinity of outer

periphery of said rotor core;

said rotor being a rotor with embedded permanent magnets further characterized in that,

when the axis extending in the center direction of the magnetic pole of said rotor is assumed as d-axis, and the axis extending in the interpolar direction 90 degrees deviated from the center direction of said magnetic pole in terms of electric angle is assumed as q-axis,

an angle with respect to the rotor center formed between the ends of two adjacent magnetic flux short circuit preventive holes on the d-axis side is smaller than the angle formed by the outer periphery of said permanent magnet with respect to the rotor center, and

the radial distance between the outer periphery of said magnetic flux short circuit preventive hole and that of said rotor core is increased gradually in conformity to the approach to d-axis side from q-axis.

3. A rotor with embedded permanent magnets according to Claim 1 or 2 characterized in that the radial length of said magnetic flux short circuit preventive holes is decreased gradually in conformity to the approach to d-axis side from q-axis.

4. A rotor with embedded permanent magnets according to any one of Claims 1 to 3 characterized in that, when the radial distance between the outer periphery of said magnetic flux short circuit preventive holes and that of said rotor core is assumed as "a" closer to the q-axis, and "b" closer to the d-axis, the ratio of "a" to "b" is about 1 to 3 or 1 to 4.

5. A rotor with embedded permanent magnets according to any one of Claims 1 to 4 characterized in that the permanent magnet embedded in said rotor core is a flat plate magnet.

6. A rotor with embedded permanent magnets according to any one of Claims 1 to 4 characterized in that the permanent magnet embedded in said rotor core is designed in a concave arch-shaped form with respect to the outer periphery of the rotor.

7. A rotor with embedded permanent magnets according to any one of Claims 1 to 4 characterized in that the permanent magnet embedded in said rotor core is designed in a convex arch-shaped form with respect to the outer periphery of the rotor.

8. A rotor with embedded permanent magnets according to any one of Claims 1 to 4 characterized in that the permanent magnet embedded in said rotor core is designed in a V shape in each magnetic pole.

9. A rotor with embedded permanent magnets according to any one of Claims 1 to 8 characterized in that a non-magnetic substance is inserted in said magnetic flux short circuit preventive hole.

10. A rotating electrical machine equipped with a rotor comprising;

permanent magnets embedded in the rotor core, and

magnetic flux short circuit preventive holes extending from the circumferential ends of said permanent magnets constituting magnetic poles to the vicinity of outer periphery of said rotor core;

said rotating electrical machine further characterized in that said magnetic flux short circuit preventive hole is formed in such a way that the radial distance between the outer periphery of said magnetic flux short circuit preventive hole and that of said rotor core is increased gradually in conformity to the approach to the pole from interpolar position.

11. A rotating electrical machine equipped with a rotor comprising;

permanent magnets embedded in the rotor core, and

magnetic flux short circuit preventive holes extending from the circumferential ends of said permanent magnets constituting magnetic poles to the vicinity of outer periphery of said rotor core;

said rotating electrical machine further characterized in that said magnetic flux short circuit preventive hole is formed in such a way that the radial distance between the outer periphery of said magnetic flux short circuit preventive hole and that of said rotor core is increased gradually in conformity to the approach to the pole from interpolar position; and

an angle with respect to the rotor center formed between the ends of two adjacent magnetic flux short circuit preventive holes on the interpolar side is smaller than the angle formed by the outer periphery of said permanent magnet with respect to the rotor center.